

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex Parte* Gerhard Kordel et al.

Appeal No. \_\_\_\_\_

Serial No.: 10/815,702  
Filed: April 2, 2004  
Group Art Unit: 2832  
Examiner: Marina Fishman  
Applicant: Gerhard Kordel et al.  
Title: **HOUSING WITH CONDUCTOR BUS FOR A DISCONNECTING APPARATUS**  
Attorney Docket: DP-314025 (DETI-08)  
Confirmation No.: 9718

Cincinnati, Ohio 45202

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Commissioner for Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

**BRIEF ON APPEAL**

**I. Real Party In Interest**

The real party in interest in this appeal is Delphi Technologies, Inc., a corporation of Delaware having a place of business at P.O. Box 5052, Troy MI 48007-5052.

**II. Related Appeals and Interferences**

There are no related appeals or interferences known to Appellant, the Appellant's legal representative, or to the assignee which will directly affect or be directly affected by or have a bearing on the decision of the Board in the present appeal.

### **III. Status of Claims**

Claims 1-10 are currently pending and are subject to this appeal.

### **IV. Status of Amendments**

There are no amendments pending.

### **V. Summary of Claimed Subject Matter**

Claims 1 and 6 are independent claims.

Independent Claim 1 generally recites a pyromechanical disconnecting apparatus comprising:

- a housing (4) in which there is arranged a conductor bus (11),
- the conductor bus (11) is fashioned to be severable at a predetermined cut position (1) by a cutting chisel (12) driven by a pyrotechnic propellant charge (firing element 14),
- the conductor bus (11) is clamped in on its side facing away from the cutting chisel (12) by a locking bolt (5),
- the locking bolt (5) is inserted in the housing (4),
- a receiving space (15) is arranged in the locking bolt (5) in the region of the predetermined cut position (1),
- the receiving space (15) is arranged so that the severed region of the conductor bus (11) will be bent into it,
- the locking bolt (5) forms an external surface of the housing (4), and
- a recess (13) is arranged in the locking bolt (5) to transpicuously connect the receiving space (15) with the atmosphere.

The claim elements are shown in Figs. 1 and 2 of the instant application.

Independent claim 6 is similar to independent claim 1, but is directed to a battery shut off in a motor vehicle that includes the same bulleted elements indicated above as being recited in claim 1.

Dependent claims 3 and 8 recite that the recess (13) is covered by a transparent material (12).

## **VI. Grounds of Rejection to be Reviewed on Appeal**

A. Claims 1-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Simonsen U.S. Patent No. 4,224,487 in view of Them U.S. Patent No. 3,715,697.

## **VII. Argument**

### **A. Rejection of Claims 1-10 under § 103 over Simonsen in view of Them**

#### **1. Claims 1-10**

It is the Examiner's position that Simonsen teaches or recognizes the following:

- a housing (2)
- an electrically conductive bus (11) with a pre-determined cut position (15)
- a chisel (5) driven by pyrotechnic propellant charge (3)
- the conductor bus is clamped by a locking bolt (parts of the housing)
- a receiving space (17) in the locking bolt
- when the conductor bus is severed by the chisel, the conductor bus is bent in the receiving space. The recess transpicuously connects the receiving space with the atmosphere through channel (10).

Pages 4-5, paragraph 9 of Office Action Mailed 5/06/05; pages 2-3, paragraph 3 of the Office Action Mailed 9/01/05. It is further the Examiner's position that Simonsen discloses the instant claimed invention with the exception being that the bolt is a part of the housing instead of a separate unit, but that constructing formerly integral structure in various elements involves only routine skill per Newin v. Erlichman, 168 USPQ 177, 179 (PO BdPatInter 1969), and is therefore obvious. Page 5, paragraph 9 of Office Action Mailed 5/06/05; page 3, paragraph 3 of the Office Action Mailed 9/01/05.

The Newin case cited by the Examiner also makes clear that the function of the parts is relevant to assessing whether one integral part is similarly served by separate parts so as to be obvious. In the present case, Simonsen merely discloses a housing (2). There is no teaching or suggestion that the housing (2) actually functions to clamp the conductor bus (11) on a side facing away from the cutting chisel (5), and thus, there is no teaching or suggestion of providing a two-component structure of a locking bolt and housing rather than just a single-component housing. Generally, a housing is merely that, a housing for other components. There is no teaching or suggestion that the housing functions as anything other than structure to house other

components within it. Therefore, a clamping function is not taught or suggested by Simonsen. Taking into account function, it is not obvious to divide the housing of Simonsen into a housing and a locking bolt because not only does Simonsen not teach a locking bolt, as previously argued, but Simonsen does not even teach or suggest the function of the locking bolt. Therefore, there is no teaching, suggestion or motivation to modify Simonsen as suggested by the Examiner, such that the rejection is improper.

Them, although not apparently relied upon by the Examiner for teaching a locking bolt, is nonetheless cited as a secondary reference for each of claims 1-10, and thus will be addressed. Them discloses a pair of rivets (13, 14) located entirely within a receiving space inside of the housing (10) to clamp the ends of a conductor bus (11, 12), but the receiving space is formed in the housing (10), not in the rivets (13, 14). Therefore, while Them discloses that the conductor bus can be secured in the housing using rivets, Them does not disclose a locking bolt insert within the housing that forms an exterior surface of the housing, and that itself has the receiving space therein for the cut and bent portion of the conductor bus. There is no teaching or suggestion in either reference, explicitly or implicitly, of modifying Simonsen to clamp the conductor bus using a locking bolt insert in the housing, and to provide the receiving space within the locking bolt itself rather than in the housing. The combination of references must teach each and every element, as claimed, and the combination of Simonsen and Them does not teach a locking bolt insert in the housing that forms an exterior surface of the housing and that itself has the receiving space therein for the cut and bent portion of the conductor bus. Therefore, there is no *prima facie* case of obviousness. The rejection of claims 1-10 is improper for at least these reasons, and Appellants urge the Board to reverse the rejection.

## 2. Claims 3, 4, 8, and 9

It is the Examiner's position that Them discloses a transparent disc (33) and that it would be obvious to provide a transparent disc below the receiving space (17) in Simonsen, as suggested by Them. As claimed however, a receiving space is arranged in the locking bolt, and a recess is arranged in the locking bolt, and the recess transpicuously connects the receiving space with the atmosphere. Thus, the receiving space and the recess are two elements, as recited. The claims at issue recite that the recess is covered by a transparent material, whereas Them, as pointed out by the Examiner, discloses a transparent disc arranged with respect to the receiving space. Them does not teach or suggest both a receiving space and a recess, but only discloses a

receiving space, and therefore cannot teach or suggest covering a recess with a transparent material to provide a transpicuous connection between the receiving space and the atmosphere. Moreover, Simonsen teaches a vent (10) that runs parallel with the conductor bus for outgassing, and it is the Examiner's position that this vent (10) constitutes the recess in the claimed invention. If the vent/recess (10) were covered with the transparent disc of Them, the vent/recess (10) could no longer function as a vent for outgassing, thereby destroying its intended function. "If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP § 2143.01 (citing *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984)). For at least these additional reasons, the rejection of claims 3, 4, 8, and 9 is improper, and Appellants urge the Board to reverse the rejection.

Appellants are of the opinion that no additional fee or extension of time is due with this communication. If any charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000, and if an extension of time is due, consider this communication to constitute a Petition for the Extension of time, and apply the appropriate extension fee to Deposit Account No. 23-3000.

Respectfully Submitted,  
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## Claims Appendix

1. (Previously Presented) A pyromechanical disconnecting apparatus, having a housing in which there is arranged an electrically conductive conductor bus, which is fashioned so as to be severable at a predetermined cut position by a cutting chisel driven by a pyrotechnic propellant charge, the conductor bus is clamped in on its side facing away from the cutting chisel by a locking bolt inserted into the housing, and a receiving space is arranged in the locking bolt in the region of the predetermined cut position, into which receiving space the cutting chisel bends the region of the conductor bus severed by it, and the locking bolt forms an external surface of the housing, wherein a recess is arranged in the locking bolt, which recess transpicuously connects the receiving space with the atmosphere.
2. (Previously Presented) The disconnecting apparatus of Claim 1 wherein the recess is a hole.
3. (Previously Presented) The disconnecting apparatus of Claim 1 wherein the recess is covered by a transparent material.
4. (Previously Presented) The disconnecting apparatus of Claim 3 wherein the transparent material is a transparent plastic or a transparent glass.
5. (Previously Presented) The disconnecting apparatus of claim 1, wherein the recess has a smaller cross-sectional area than the receiving space.
6. (Previously Presented) A battery shut off in a motor vehicle comprising a disconnecting apparatus having a housing in which there is arranged an electrically conductive conductor bus, which is fashioned so as to be severable at a predetermined cut position by a cutting chisel driven by a pyrotechnic propellant charge, the conductor bus is clamped in on its side facing away from the cutting chisel by a locking bolt inserted into the housing, and a receiving space is arranged in the locking bolt in the region of the predetermined cut position, into which receiving space the cutting chisel bends the region of the conductor bus severed by it, and the locking bolt forms an

external surface of the housing, wherein a recess is arranged in the locking bolt, which recess transpicuously connects the receiving space with the atmosphere.

7. (Previously Presented) The battery shut off of Claim 6 wherein the recess is a hole.
8. (Previously Presented) The battery shut off of Claim 6 wherein the recess is covered by a transparent material.
9. (Previously Presented) The battery shut off of Claim 8 wherein the transparent material is a transparent plastic or a transparent glass.
10. (Previously Presented) The battery shut off of claim 6, wherein the recess has a smaller cross-sectional area than the receiving space.

## **Evidence Appendix**

None

## **Related Proceedings Appendix**

None

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